Efforts to promote the Correct Management of Waste in the City of Yokohama – Centering on Measures for Plastic Waste –

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Stages of Waste Disposal in the City of Yokohama

Population: 3.74 million
Households: 1.7 million
(As of April 1, 2019)

- Collection sites
- Sorting into waste categories
- Burnables → Intermediate processing → Recycling
- Non-burnables → Landfill
- Shipment
- Incineration
Sorted Disposal

Sorting Categories: 10 categories, 15 types

- Burnables
- Oversized waste
- Cans, glass bottles, plastic bottles
- Small metal items
- Plastic containers/wrapping
- Non-burnables
- Spray cans
- Used batteries
- Paper
  - Newspapers
  - Cardboard
  - Cartons
  - Magazines/other paper
- Clothes/Fabrics
Waste Disposal Facilities in the City of Yokohama

- Collection offices: 18 locations
- Transportation offices: 4 locations
- Incineration plants: 4 locations
- Resource sorting centers: 4 locations
- Landfill sites: 1 location

Map showing the locations of the facilities in various wards of Yokohama.
History of Waste Disposal (Need for Hygienic Disposal)

Collection via a handcart

First ever incineration plant in Yokohama

Disinfectant being sprayed on waste at a disposal site
Increase in Waste Volumes

- Population: ×2.5
- Waste volume: ×16

Disposal site in the 1970s
Oversized waste piled up in a street
Increased Stringency at Disposal Sites

Establishment of more incineration plants

Incinerated ash sent to landfill

Total incineration of waste

Previous: 7 items

“Waste” and “resources”

Expansion of the range of items for sorting

Present: 15 items
Cooperation with Citizens

Explanatory meetings on sorting waste
Held 11,000 times (2004–2005 fiscal years)

Initiatives to sort waste spearheaded by citizens

Explanatory meeting led by a member of staff

Citizens sorting waste at a collection site
Environmental Education

Visiting talks at daycare centers and elementary schools

Tours of incineration plants

Environmental education textbook
Results of Efforts

- **Waste volume (10,000 t)**
- **Population (10,000 people)**

**43.2% decrease**
Measures to Deal with Plastic Waste

Composition of household waste

- Paper: 27% (Total: 580,000 tons)
- Kitchen waste: 34%
- Plastics: 13% (75,000 tons)
- Kitchen waste: 7%
- Wood / bamboo: 1%
- Fibers: 1%
- Other: 7%
- Metals: 8%
- Glass: 9%

(FY 2017)
Recycling of Plastics

Annual disposal volume: Approx. 60,000 tons (FY 2017)
Rate of Cooperation in Sorting Plastics

- **PET bottles**
- **Plastic containers / wrapping**

<table>
<thead>
<tr>
<th>Year</th>
<th>PET bottles</th>
<th>Plastic containers / wrapping</th>
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<tbody>
<tr>
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<td>97</td>
<td>63</td>
</tr>
<tr>
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<td>2017</td>
<td>97</td>
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</tbody>
</table>
Business-related Waste

Composition of business-related waste

- **Total:** 300,000 tons
- **Plastics:** 48,000 tons

- **Paper:** 36%
- **Kitchen waste:** 38%
- **Fibers:** 4%
- **Wood / bamboo:** 3%
- **Other:** 16%
- **Glass:** 0%
- **Metals:** 0%

(FY 2017)
Aims of the Action Program

1. **Effective utilization of natural resources**
   (Reduction of the environmental load through the recycling of resources and securement of exhaustible resources such as fossil fuels)

2. **Reduction of emissions of greenhouse gases**
   (Measures to combat global warming)

3. **Zero emissions of plastics into marine environments**
   (Measures to stop plastics flowing into seas)
Aims of the Action Program

Effective utilization of natural resources
Reduction of emissions of greenhouse gases
Zero emissions of plastics into marine environments

Key strategy I: Recycling of resources
- Measure 1: Reduction of plastic volumes / proper reuse
- Measure 2: Recovery of plastics / proper disposal
- Measure 3: Initiatives aimed at promoting innovation / transition to alternative materials

Key strategy II: Measures to prevent emissions of plastics into marine environments
- Measure 4: Prevention of littering / emission into marine environments through illegal waste dumping
- Measure 5: Recovery of dispersed plastics

Key strategy III: Cooperation and collaboration
- Measure 6: Cooperation and collaboration with concerned parties so as to promote initiatives
- Measure 7: Sufficient fact-finding surveys / scientific knowledge

36 steps for action
Action Program (3)

Measure 1  Reduction of plastic volumes / proper reuse (examples)

- Awareness raising aimed at promoting thorough 3R* and use of alternatives
- Reduction of single use plastics whenever possible at Yokohama Municipal Assembly, etc.

* 3R
  - Reduce
  - Reuse
  - Recycle

Awareness raising by city employees at events
**Measure 2  Recovery of plastics / proper disposal (examples)**

- Awareness raising through the introduction of examples of materials that people may have trouble understanding how to properly sort.
- Thorough inspections of materials brought in to incineration plants.
- Support to promote waste sorting at overseas cities (Y-PORT projects, etc.)

**Action Program (4)**
**Action Program (5)**

*Measure 3* Initiatives aimed at promoting innovation / transition to alternative materials

*(examples)*

- Promotion of the introduction of biomass materials for plastics for which incineration is unavoidable
- Promotion of innovation through dissemination and awareness raising of alternative materials

Garbage bags made from biomass materials

Transition to alternative materials (wooden straws)
Action Program (6)

Measure 4  Prevention of littering / emission into marine environments through illegal waste dumping

(examples)

- PR and awareness raising activities to make people aware of the relationship between littering and illegal waste dumping and sea pollution
- Prevention of waste becoming scattered through the promotion and uptake of foldable net boxes

Awareness raising DVD  Foldable net boxes
Measure 5  Recovery of dispersed plastics (examples)

- Promotion of beautification and cleaning activities for streets and rivers
- Recovery of materials drifting at sea

Street cleaning in action  Beach cleaning in action  Recovery of materials drifting at sea
Measure 6  Cooperation and collaboration with concerned parties so as to promote initiatives

(examples)

- Implementation of a campaign aimed at reducing plastics in collaboration with businesses
- Awareness raising among citizens and businesses through lectures, etc.

Campaign held in collaboration with businesses (poster)
Action Program (9)

**Measure 7  Sufficient fact-finding surveys / scientific knowledge (examples)**

- Fact-finding surveys on single use plastics contained in burnable waste
- Fact-finding surveys on micro plastics contained in waste water at sewage facilities, etc.

Surveys on the composition of waste
Campaign Encouraging People to Sort Plastics Properly
Thank you for your attention!